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REMARKS/ARGUMENTS

The drawings had been objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the reference numerals "30" and "32" in both Figures 1 and 2. Applicants have amended Figures 1 and 2 to remove numerals 30 and 32. Withdrawal of the rejection is respectfully requested.

Applicants have also amended the drawings such that sheet 1/2 has changed "FIG. 2" to "FIG. 1".

The Abstract of the Disclosure had been objected to because the Examiner believed that the term "suppression" (or an equivalent term) should be added after "auto-ignition" for further clarity. Applicants have amended the Abstract of the Disclosure in a manner which is believed to be consistent with the suggestion offered by the Examiner.

The Disclosure had been objected to on the basis that throughout the Specification, the Examiner believes that the term "suppression" (or an equivalent term) should be added after "auto-ignition" to further clarify. However, Applicants respectfully maintain that the written description makes it clear that the phrase "auto-ignition and carbon-suppression foam" means a foam that has both auto-ignition suppression and carbon suppression properties as evidenced by the specification in paragraph 0022, second line, which states "the foam may be coated with catalytic

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agents to further suppress auto-ignition and carbon formation" and at paragraph 0025, fifth sentence, which states "the present invention, which utilizes an auto-ignition and carbon-suppression foam, allows for sufficient resonance time to mix the air, fuel and steam but without resulting in auto-ignition and carbon deposits." Applicants believe that it is not necessary to insert the term "suppression" throughout the Specification as suggested by the Examiner. Withdrawal of the objection is respectfully requested.

The Title has been objected to on the basis that it is not descriptive and the Examiner has suggested a new title which includes the term "suppression" after auto-ignition. On the same basis however, Applicants maintain that the description including the title is descriptive of the invention on the same basis as cited above. Withdrawal of the rejection is respectfully requested.

Claims 1, 2, 6, 8-11, 20, 22 and 28 had been objected to on the basis that the Examiner believes that the term "suppression" "or an equivalent term" should be added after "auto-ignition". Applicants have amended the claims in a manner which is believed to render the objection moot. Claim 22 has been objected to on the basis that in line 2, the term "injector" should be added before "orifice" to establish proper antecedent basis. Applicant has amended claim 22 as suggested by the Examiner.

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Applicant has amended claim 28, in the seventh line, to include "the" before "front" as suggested by the Examiner.

Claims 1-28 had been rejected under 35 U.S.C. §112, 2nd paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The Examiner has taken the position that with regard to claims 1, 2, 6, 8-11, 20 and 28 that it is unclear what is meant by "auto-ignition and carbon-suppression foam". Applicant has amended the claims by removing the terms "auto-ignition and carbon-suppression" that appear immediately prior to the term "foam". The amendment is believed to render moot the rejection of the claims and withdrawal of the same is respectfully requested.

Claims 1-28 had been rejected under 35 U.S.C. § 103(a) as being unpatentable over Etievant et al. (U.S. Patent No. 6,245,309) in view of Pettit (U.S. Patent No. 6,232,005). The Examiner acknowledges that Etievant et al. does not disclose the use of a foam for suppressing auto-ignition and carbon formation positioned between a catalyst bed and a fuel injector. Although Pettit discloses a fuel cell system combustor including a ceramic foam, neither Pettit nor Etievant et al. disclose a "catalyst agent on the foam, the catalyst agent comprising at least one of lead, lead oxide, lead molybdate and gold" as recited by amended claim 1. No prima facie case of obviousness can be established with respect to amended claim 1 in view of the references of record.

Furthermore, with respect to claim 3, Pettit teaches a foam having a porosity

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profile of about 25 pores per linear inch to about 80 pores per linear inch, and therefore teaches away from the claimed pore size range of about 10 to 20 pores per inch as set forth in claim 3. Notice of Allowance of claim 3 is respectfully requested.

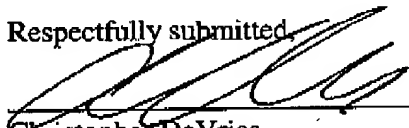
With respect to claim 18, neither of the references of record suggest a catalyst bed including a first portion having a catalyst to promote partial oxidation of the carbon-based fuel, and further including a second portion having a catalyst to promote the reformation of the carbon-based fuel to form hydrogen. Notice of Allowance of claim 18 is respectfully requested.

With respect to claim 21, neither of the references of record suggest a "tube traversing the cross section of the inlet portion of the housing and having a plurality of holes formed in the tube for distributing fuel therethrough." Notice of Allowance of claim 21 is respectfully requested.

In view of the above Amendments and Remarks, Applicants respectively request reconsideration and allowance of all the claims now in the case.

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Attachments

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